FILE 'REGISTRY'
L1 47447 SEA ABB=ON PLU=ON PI/PCT
L2 1 SEA ABB=ON PLU=ON ALUMINIUM/CN
L3 1 SEA ABB=ON PLU=ON GERMANIUM/CN

FILE 'HCAPLUS, WPIX, JAPIO'
L4 3 S JP2000-075755/AP,PRN

FILE 'HCAPLUS'
L5 84062 SEA ABB=ON PLU=ON TRANSISTOR
L6 218464 S ELECTROLUMINESCENCE OR LED OR LASER(W)DIODE OR EL(W)DISPLAY
L7 38029 SEA ABB=ON PLU=ON LCD OR LC(W)DISPLAY? OR LIQUID(W)CRYSTAL(W)
DISPLAY?
L8 4307 SEA ABB=ON PLU=ON MOISTURE(W)PROOF OR AIRTIGHT OR WATERTIGHT

L9 2243 SEA ABB=ON PLU=ON POLYETHER(W)SULFONE OR POLYETHERSULFONE
L10 22021 SEA ABB=ON PLU=ON POLYETHYLENE(W)TEREPHTHALATE
L11 14 SEA ABB=ON PLU=ON ARTON(1A)RESIN
L12 59473 SEA ABB=ON PLU=ON POLYIMIDE OR L1
L13 49 SEA ABB=ON PLU=ON TEFLON(W)RESIN
L14 1235965 SEA ABB=ON PLU=ON ALUMINIUM OR ALUMINUM OR AL OR L2
L15 146282 SEA ABB=ON PLU=ON GERMANIUM OR GE OR L3
L16 2395059 SEA ABB=ON PLU=ON METAL#### OR ALLOY? OR AMALGAM? OR INGOT?
OR BULLION?
L17 386 SEA ABB=ON PLU=ON PIXEL(W)ARRAY
L18 43030 SEA ABB=ON PLU=ON GLASS(A)(SUBSTRAT? OR SURFACE? OR BASE#
OR SUBSTRUCT? OR UNDERSTRUCT? OR UNDERLAY? OR FOUNDATION? OR
PANE?)
L19 115098 SEA ABB=ON PLU=ON (ADHESI? OR ADHERE? OR STICK? OR CLING? OR
BOND? OR GLUE? OR PASTE? OR HOLD?)(2A)(LAYER? OR FILM? OR
COAT?)
L20 25954 SEA ABB=ON PLU=ON (GLASS? OR VITR? OR HYAL? OR CULLET? OR
(NON(W)CRYST? OR NONCRYST? OR AMORPH?)(2A)SOLID?)(A)(LAYER? OR
COAT? OR FILM?)

FILE 'REGISTRY'
L21 0 SEA ABB=ON PLU=ON SILICON/SI
L22 1 SEA ABB=ON PLU=ON SILICON/CN

FILE 'HCAPLUS'
L23 862791 SEA ABB=ON PLU=ON SILICON OR SI OR POLYSILICON OR L22
L24 43030 SEA ABB=ON PLU=ON GLASS(A)(SUBSTRAT? OR SURFACE? OR BASE# OR SUBSTRUCT? OR UNDERSTRUCT? OR UNDERLAY? OR FOUNDATION? OR PANE?)
L25 3449 SEA ABB=ON PLU=ON ((L5 OR L6 OR L7)) AND L24
L26 643 SEA ABB=ON PLU=ON L25 AND L14
L27 0 SEA ABB=ON PLU=ON L26 AND L8
L28 4 SEA ABB=ON PLU=ON L25 AND L8
L29 643 SEA ABB=ON PLU=ON L26 AND L24
L30 1031 SEA ABB=ON PLU=ON L5 AND L24
L31 183 SEA ABB=ON PLU=ON L30 AND L14
L32 0 SEA ABB=ON PLU=ON L31 AND L9
L33 0 SEA ABB=ON PLU=ON L31 AND L10
L34 0 SEA ABB=ON PLU=ON L31 AND L11
L35 9 SEA ABB=ON PLU=ON L31 AND L12
L36 0 SEA ABB=ON PLU=ON L31 AND L13
L37 183 SEA ABB=ON PLU=ON L31 AND L14
L38 4 SEA ABB=ON PLU=ON L31 AND L15
L39 5 SEA ABB=ON PLU=ON L31 AND PLASTIC
L40 0 SEA ABB=ON PLU=ON L31 AND L19
E RESINS/CT
E E3+ALL/CT
E TEFLON RESIN/CT
E TEFLON RESINS/CT
L41 55 SEA ABB=ON PLU=ON L7 AND L17
L42 8 SEA ABB=ON PLU=ON L41 AND L24
L43 5 SEA ABB=ON PLU=ON L41 AND L14
L44 0 SEA ABB=ON PLU=ON L41 AND L8
L45 1972 SEA ABB=ON PLU=ON L7 AND L24
L46 192 SEA ABB=ON PLU=ON L45 AND L14
L47 192 SEA ABB=ON PLU=ON L46 AND ((L8 OR L9 OR L10 OR L11 OR L12 OR L13 OR L14 OR L15 OR L16))
L48 102 SEA ABB=ON PLU=ON L46 AND ((L8 OR L9 OR L10 OR L11 OR L12 OR L13) OR (L15 OR L16))
L49 0 SEA ABB=ON PLU=ON L46 AND L8
L50 0 SEA ABB=ON PLU=ON L46 AND L9

L51 1 SEA ABB=ON PLU=ON L46 AND L10
L52 0 SEA ABB=ON PLU=ON L46 AND L11
L53 9 SEA ABB=ON PLU=ON L46 AND L12
L54 0 SEA ABB=ON PLU=ON L46 AND L13
L55 10 SEA ABB=ON PLU=ON L46 AND L15
L56 95 SEA ABB=ON PLU=ON L46 AND L16
L57 20889 SEA ABB=ON PLU=ON L6 AND L14
L58 22808 SEA ABB=ON PLU=ON L6 AND ((L9 OR L10 OR L11 OR L12 OR L13 OR
L14 OR L15))
L59 3 SEA ABB=ON PLU=ON L58 AND L8
L60 359 SEA ABB=ON PLU=ON L58 AND L24
L61 7 SEA ABB=ON PLU=ON L60 AND L19
L62 54 SEA ABB=ON PLU=ON L60 AND L23
L63 29329 SEA ABB=ON PLU=ON L6 AND ((L9 OR L10 OR L11 OR L12 OR L13 OR
L14 OR L15) OR L23)
L64 418 SEA ABB=ON PLU=ON L63 AND L18
L65 14 SEA ABB=ON PLU=ON L63 AND L17
L66 10 SEA ABB=ON PLU=ON L64 AND L19
L67 64 SEA ABB=ON PLU=ON (L35 OR L66 OR L65 OR L61 OR L59 OR L55 OR
L53 OR L43 OR L42 OR L39 OR L38 OR L35) NOT (L28)
L68 89 SEA ABB=ON PLU=ON (OKANO H OR OKANO, H OR OKANO, HIROYUKI OR
OKANO HIROYUKI)/AU
L69 0 SEA ABB=ON PLU=ON L68 AND ((L5 OR L6 OR

L28 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:418283 HCAPLUS
DN 133:67054
TI Manufacture of thin film **transistor** by low temperature process
IN Ishihara, Shingo; Wakaki, Masatoshi; Ando, Masahiko; Saito, Toshiro
PA Hitachi, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000174277	A2	20000623	JP 1998-341347	19981201
PRAI	JP 1998-341347		19981201		

AB The method comprises forming, a gate electrode, a gate insulation layer, a source electrode, and a drain electrode on a **glass substrate**, vapor depositing a titanylphthalocyanine layer, putting it in an **airtight** container, and modifying the crystallinity of the titanylphthalocyanine layer.

L28 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:315625 HCAPLUS
DN 132:301024
TI Preparation of **liquid-crystal display** device
IN Tanaka, Ichisei; Tanaka, Yoshitaku
PA Matsushita Electric Industries Co., Ltd., Japan
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 14 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1217478	A	19990526	CN 1998-121472	19981030
PRAI	JP 1997-297619		19971030		

AB A process for the prepn. of a **liq.-crystal display** device comprises forming a continuous line of a sealing material along the circumference of a **glass substrate**, placing another **glass substrate** in alignment with the **glass substrate** in vacuum, exposing the two **glass substrates** to the atm. pressure to form a uniform space between them, and solidifying the sealing material.

L28 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2003 ACS
AN 1998:685366 HCAPLUS
DN 129:308560
TI Apparatus for plasma treatment on large scale **glass substrate** for **liquid crystal display**
IN Hiroki, Tsutomu
PA Tokyo Electron, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10284472	A2	19981023	JP 1997-98395	19970401
PRAI	JP 1997-98395		19970401		

AB The app. is characterized by that a **glass substrate** (from which .gtoreq.1 substrates for **liq. crystal display** devices are obtained) placed on a support in an **airtight** chamber is fixed by using cramps on the edges and a means of pressing on points on regions corresponding to margins of the **liq. crystal display** substrates. The **glass substrate** is tightly attached on the support so that the heat is efficiently discharged in the plasma etching, etc.

L28 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2003 ACS
AN 1997:793956 HCAPLUS
DN 128:68605
TI Plasma display, plasma **liquid crystal display** and those production methods
IN Nakamoto, Masayuki
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09306367	A2	19971128	JP 1997-36362	19970220
PRAI	JP 1996-38113		19960226		
	JP 1996-53243		19960311		

AB The title plasma display has a matrix of discharge cells which are made of **airtight** space filled with He-Ne, Ne-Xe, or He-Xe discharge gas between a support substrate, cathode electrodes and a **glass substrate**. The cell width, that is substrate formed wall width, is designed in the range of 0.1-300 .mu.m. An emitter (discharge electrode) for emitting electrons is enclosed in the cell and an opposite electrode is placed on the **glass substrate** opposite to the emitter. The sharp top of the emitter has a curvature radius 1-100 .mu.m. Plasma **liq. crystal display** and its manuf. are also claimed. The display can be driven with a low voltage and shows high accuracy and high brightness.

L67 ANSWER 1 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:945407 HCAPLUS
TI Display. [Machine Translation].
IN Aoki, Yoshirou
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002358025	A2	20021213	JP 2002-95503	20020329
PRAI JP 2001-94900	A	20010329		

AB [Machine Translation of Descriptors]. Information of the identification of the insulated substrate which forms the display the output enable display is offered electrically. The **pixel array** section the signal conductor drive circuit the scanning line drive circuit the identification information output circuit 4 which is the feature part of 3 which drives 2 which drives 1 where pixel TFT was formed near each intersection of the signal conductor and the scanning line which line facilities are done, to on the **glass substrates** forming the **liquid crystal display** and the signal conductor and the scanning line and this execution form is formed. By the identification information output circuit 4, in order to output the information of the identification with form of the serial data, without increasing number of control lines, in addition without providing the private clock pulse, information of the identification can be outputted. Same period being able to point to the shift pulse which is outputted from the scanning line drive circuit 3, in order to output the identifying signal, the necessity to prepare the timing signal in order to output the information of the identification separately is gone, circuit constitution can simplify.

L67 ANSWER 2 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:812423 HCAPLUS
DN 137:301933
TI Optical semiconductor devices and packages
IN Nagashima, Tetsuji
PA Kyocera Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002314186	A2	20021025	JP 2001-113031	20010411
PRAI JP 2001-113031		20010411		

AB The packages comprise: an **airtight** container having a partition wall comprising a multilayer of Mo, a solder layer and Cu (thickness, T1, T3 and T2, resp. T1/(T2 + T3) = 4-9); a **LED** (and/or a photodiode) chip; an optical fiber coupler; a heat sink; and an input and an output light port.

L67 ANSWER 3 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:750888 HCAPLUS
DN 137:270255
TI Manufacture of reflectors, color filter and liquid crystal devices
IN Togawa, Eiji

PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002286917	A2	20021003	JP 2001-94077	20010328
PRAI JP 2001-94077		20010328		

AB The manufg. process comprises the steps of: on a **glass substrate**; forming (1) a patterned **Al** reflection layer by sputtering and photolithog.; forming (2) a patterned black stripe array on (1); forming (3) a red, a green and a blue color filter stripe array; forming (4) a 1st ITO electrode stripe array (.dblvert. X); forming (5) a **polyimide** orientation film layer; forming (6) a liq. crystal matrix; forming (7) a 2nd ITO electrode stripe array (.dblvert. Y); and forming (8) a TFT driver matrix array.

L67 ANSWER 4 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:696415 HCAPLUS
DN 137:223924
TI Environmental barrier materials for encapsulated organic light-emitting devices
IN Graff, Gordon L.; Gross, Mark E.; Affinito, John D.; Shi, Ming-Kun; Hall, Michael G.; Mast, Eric S.; Walty, Robert; Rutherford, Nicole; Burrows, Paul E.; Martin, Peter M.
PA USA
SO U.S. Pat. Appl. Publ., 10 pp., Cont.-in-part of U.S. Ser. No. 427,138.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2002125822	A1	20020912	US 2001-887605	20010622
US 6268695	B1	20010731	US 1998-212779	19981216
TW 439308	B	20010607	TW 1999-88121955	19991215
US 2001015620	A1	20010823	US 2001-847233	20010502
PRAI US 1998-212779	A2	19981216		
US 1999-427138	A2	19991025		

AB Encapsulated org. light-emitting devices are described which comprise a substrate; an org. light-emitting device adjacent to the substrate; and .gtoreq.1 first barrier stack adjacent to the org. light-emitting device comprising .gtoreq.1 first barrier layer and .gtoreq.1 first decoupling layer, where the .gtoreq.1 first barrier stack encapsulates the org. light emitting device. Encapsulated org. light-emitting device are also described which comprise .gtoreq.1 s barrier stack comprising .gtoreq.1 s barrier layer and .gtoreq.1 s decoupling layer; an org. light-emitting device adjacent to the .gtoreq.1 s barrier stack; and .gtoreq.1 first barrier stack adjacent to the org. light-emitting device comprising .gtoreq.1 first barrier layer and .gtoreq.1 first decoupling layer, where the .gtoreq.1 first barrier stack and the .gtoreq.1 s barrier stack encapsulate the org. light-emitting devices.

L67 ANSWER 5 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:606633 HCAPLUS
DN 137:147845
TI Active-matrix reflective **liquid crystal displays**, thin-film transistor devices therefor, cellular phones therewith, and manufacture thereof

IN Hayashi, Hisao
PA Sony Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002229061	A2	20020814	JP 2001-25728	20010201
PRAI JP 2001-25728		20010201		

AB The displays include, in **pixel arrays**, reflective films that extend to drive circuit regions and are laminated on wirings (e.g., interconnects for plural TFT) via planarization films. The extensions of reflective films, which may be coated with protective films, are elec. connected to the wirings through contact holes formed in the planarization films. The drive circuits show low resistivity, thereby reducing their areal ratio to **pixel arrays**.

L67 ANSWER 6 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:466304 HCAPLUS
DN 137:40958
TI Nanosensors
IN Lieber, Charles M.; Park, Hongkun; Wei, Quinqiao; Cui, Yi; Liang, Wenjie
PA President and Fellows of Harvard College, USA
SO PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002048701	A2	20020620	WO 2001-US48230	20011211
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002029046	A5	20020624	AU 2002-29046	20011211
US 2002117659	A1	20020829	US 2001-20004	20011211
PRAI US 2000-254745P	P	20001211		
US 2001-292035P	P	20010518		
WO 2001-US48230	W	20011211		

AB Elec. devices comprised of nanowires are described, along with methods of their manuf. and use. The nanowires can be nanotubes and nanowires. The surface of the nanowires may be selectively functionalized. Nanodetector devices are described.

L67 ANSWER 7 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:408394 HCAPLUS
DN 136:393017
TI Organic electroluminescent display devices and manufacture
IN Inoguchi, Daisuke; Sekine, Tokumasa; Kai, Teruhiko
PA Toppan Printing Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent

LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002158089	A2	20020531	JP 2000-354053	20001121
PRAI JP 2000-354053		20001121		

AB The devices comprise: (1) a **glass substrate**; and (2) a 1st electrode, (3) a hole transport, (4) an org. electroluminescent, (5) an electron transport and (6) a 2nd electrode layer, where a 1st and a 2nd laminate comprising (1)-(3) and (6)-(4) are bonded using an **adhesive layer** and a thermal head.

L67 ANSWER 8 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:403855 HCAPLUS
DN 136:394398
TI Method for fabricating high aperture ratio TFT's and devices formed
IN Huang, Ting-Hui; Chen, Jr-Hong
PA Industrial Technology Research Institute, Taiwan
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6395586	B1	20020528	US 1999-243593	19990203
PRAI US 1999-243593		19990203		

AB A method for fabricating a high aperture ratio and low contact resistance, thin film **transistor** (TFT) structure and devices formed by such method are disclosed. In the method, a source/drain metal layer is deposited directly on a n+ amorphous silicon layer such that the contact resistance of the **transistor** structure can be significantly reduced. The final deposition of a transparent electrode layer, such as of an ITO material, improves the aperture ratio for the **transistor**. Numerous other processing benefits are also provided by the present invention novel method such that a more reliable **transistor** and a capacitor that has more stable storage capacitance can be formed with the **transistor**. A back channel etched inverted staggered type TFT that has high aperture ratio and low contact resistance is thus provided by the present invention novel method.
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 9 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:314537 HCAPLUS
DN 136:332526
TI Manufacture of color filters for optical displays
IN Kiguchi, Hiroshi; Katagami, Satoru; Kawase, Tomomi; Ariga, Hisashi; Shimizu, Masaharu
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002122727	A2	20020426	JP 2000-316956	20001017
PRAI JP 2000-316956		20001017		

AB The manufg. process comprises the steps of: forming, on a **glass substrate**, a color filter comprising a black matrix, and a red, a

blue and a green **pixel array** using photolithog. and an ink jet injection on a partitioned frame work; and forming a polarizer, a 1st orientation film, a liq. crystal layer, a 2nd orientation film, a TFT driver matrix and a back light.

L67 ANSWER 10 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:172451 HCAPLUS
DN 136:207812
TI Semiconductor device with TFTs in pixel portion and driver circuit on same substrate and fabrication of same
IN Fujimoto, Etsuko; Murakami, Satoshi; Yamazaki, Shunpei; Eguchi, Shingo
PA Japan
SO U.S. Pat. Appl. Publ., 73 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002028544	A1	20020307	US 2001-916329	20010730
	JP 2002175028	A2	20020621	JP 2001-227219	20010727
PRAI	JP 2000-230401	A	20000731		
	JP 2000-301389	A	20000929		
	JP 2000-301390	A	20000929		

AB A semiconductor device having a TFT formed in a pixel portion and an n-channel TFT and a p-channel TFT that constitute a driver circuit provided in the periphery of the pixel portion, all of the TFTs being formed on the same substrate, wherein the n-channel TFT has a second concn. impurity region that partially overlaps a gate electrode, and wherein the p-channel TFT and the TFT formed in the pixel portion resp. have second concn. impurity regions that do not overlap gate electrodes. The semiconductor device is specifically a **liq. crystal display** device. The invention also relates to electronic appliances that employ the **liq. crystal display** device as a display unit.

L67 ANSWER 11 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:103543 HCAPLUS
DN 136:143798
TI Thin-film field-effect **transistor** with organic-inorganic hybrid semiconductor requiring low operating voltages
IN Dimitrakopoulos, Christos Dimitrios; Kagan, Cherie Renee; Mitzi, David Brian
PA International Business Machines Corporation, USA
SO U.S., 17 pp., Cont.-in-part of U.S. Ser. No. 323,804.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6344662	B1	20020205	US 2000-703964	20001101
	US 5981970	A	19991109	US 1997-827018	19970325
	US 6210479	B1	20010403	US 1999-259128	19990226
	US 6344660	B1	20020205	US 1999-323804	19990602
	JP 2002198539	A2	20020712	JP 2001-332113	20011030
PRAI	US 1997-827018	A1	19970325		
	US 1999-259128	A2	19990226		
	US 1999-323804	A2	19990602		
	US 2000-703964	A	20001101		

AB A thin film **transistor** (TFT) device structure based on an

org.-inorg. hybrid semiconductor material, that exhibits a high field effect mobility, high current modulation at lower operating voltages than the current state of the art org.-inorg. hybrid TFT devices. The structure comprises a suitable substrate disposed with the following sequence of features: a set of conducting gate electrodes covered with a high dielec. const. insulator, a layer of the org.-inorg. hybrid semiconductor, sets of elec. conducting source and drain electrodes corresponding to each of the gate lines, and an optional passivation layer that can overcoat and protect the device structure. Use of high dielec. const. gate insulators exploits the gate voltage dependence of the org.-inorg. hybrid semiconductor to achieve high field effect mobility levels at very low operating voltages. Judicious combinations of the choice of this high dielec. const. gate insulator material and the means to integrate it into the org.-inorg. hybrid based TFT structure are taught that would enable easy fabrication on glass or **plastic** substrates and the use of such devices in flat panel display applications.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 12 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:72476 HCAPLUS
DN 136:126669
TI Micro electro mechanical system controlled organic **LED** and **pixel arrays** and method of using and of manufacturing same
IN Ma, Kelvin; Lee, Ji-Ung; Duggal, Anil Raj
PA General Electric Company, USA
SO PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002007482	A2	20020124	WO 2001-US21291	20010703
	WO 2002007482	A3	20020418		
	W: JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	EP 1230681	A2	20020814	EP 2001-952441	20010703
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
PRAI	US 2000-618665	A	20000718		
	WO 2001-US21291	W	20010703		

AB Light-emitting elements, esp. electroluminescent displays, are described which comprise .gtoreq.1 org. light-emitting device; and a microelectromech. system coupled to each org. light-emitting device so that actuation of the micro electromech. system activates the org. light-emitting device to produce light. Methods for assembling the devices and for operating the devices are also described.

L67 ANSWER 13 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:674037 HCAPLUS
TI **Liquid crystal display**. [Machine Translation].
IN Aoki, Yoshirou
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001249646	A2	20010914	JP 2000-60166	20000306
PRAI	JP 2000-60166		20000306		

AB [Machine Translation of Descriptors]. On the identical **glass substrates** with the **pixel array** of the **liquid crystal display**, with the C-MOS invertor circuit which forms the output section of scanning line drive circuit at the time of constituting which arranges the drive circuit of the signal conductor and the scanning line, and wiring which supplies power source, unstable state at the time of power source throwing is evaded by providing switch circuit. Output invertor circuit low level power source on 15 of 9 and 10 and 16 sides mediating/helping the N channel thin film transistor 11 which is put and 12, fixed time after the power source starting, through external control signal conductor 17 from external control circuit 19, in the **liquid crystal display** territory 5 which is driven by scanning line 27, 28 and the signal conductor and scanning line in the output invertor circuit 9 which gives the scan signal 27 and 28, 10 and these output invertor circuits the timing control circuit in the **liquid crystal display** which has 3 which gives the scan signal 9 and 10 and 4, by turning off mandatorily, output invertor circuit 9 and 10 Level of the scan signal which is outputted in empty scan signal conductor 27 and 28 is stabilized in high level.

L67 ANSWER 14 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:598397 HCAPLUS
DN 135:160233
TI Method of manufacturing a color filter for in-plane switching mode **liquid crystal display** device
IN Lee, Jin Seok
PA S. Korea
SO U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO
DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2001013914	A1	20010816	US 2000-735519	20001214
PRAI	KR 1999-57489	A	19991214		

AB In a method of manufg. a color filter for an in-plane switching mode **liq. crystal display** a black matrix for light-shielding and color filter layers of red, green and blue are formed on a **glass substrate** and an overcoat layer is coated thereon for minimizing a stepped difference of an overlapped part between the black matrix and the color filter layers, the overcoat layer being formed of a non-exposing type material.

L67 ANSWER 15 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:498700 HCAPLUS
DN 135:233809
TI Application of **Al**/PI composite bumps to COG bonding process
AU Jeng, Jen-Huang; Hsieh, T. E.
CS Microview Technology Corporation, Taoyuan, Taiwan
SO IEEE Transactions on Components and Packaging Technologies (2001), 24(2), 271-278
CODEN: ITCPFB; ISSN: 1521-3331
PB Institute of Electrical and Electronics Engineers
DT Journal

LA English
AB This work demonstrates the probing, testability and applicability of **Al**/PI (**aluminum/polyimide**) composite bumps to the chip-on-glass (COG) bonding process for **liq. crystal display** (**LCD**) driver chip packaging. The exptl. results showed that the thickness of **Al** overlayer on PI core of the bump, the location of pin contact, and the bump configuration affect bump probing testability. The bump with type IV configuration prepd. in this work exhibited excellent probing testability when its **Al** overlayer thickness exceeded 0.8 .mu.m. The author further employed Taguchi method to identify the optimum COG bonding parameters for the **Al**/PI composite bump. The four bonding parameters, bonding temp., bonding time, bonding pressure and thickness of **Al** overlayer are identified as 180 .degree.C, 10 s, 800 kgf/cm2 and 1.4 .mu.m, resp. The optimum bonding condition was applied to subsequent COG bonding expts. on **glass substrates** contg. **Al** pads or indium tin oxide (ITO) pads. From the results of resistance measurement along with a series of reliability tests, **Al** pad is found to be good substrate bonding pad for **Al**/PI bump to COG process. Excellent contact quality was obsd. when the bumps had **Al** overlayer thickness over 1.1 .mu.m. As to the COG specimens with substrate contg. ITO pads, high joint resistance suggested that further contact quality refinement is necessary to realize their application to COG process.
RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 16 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:117831 HCAPLUS
TI **Liquid crystal display**. [Machine Translation].
IN Suzuki, Shunji
PA International Business Machines Corp., USA
SO Jpn. Kokai Tokkyo Koho, 34 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001042333	A2	20010216	JP 1999-200929	19990714
PRAI	JP 1999-200929		19990714		

AB [Machine Translation of Descriptors]. The problematical point that the decision is done the formation the TFT of the **LCD** panel of the tiling panel is damaged during rubbing process, **glass substrates glass substrates** 2 above 1 underneath various and various is necessary to doing the problematical point, and the tiling panel that. To possess with the **LCD** panel and the right flank **LCD** panel of the left side, **pixel array** transparent substrate the baseplate of one side of 41 of left side **LCD** panel and opposition transparent substrate 42 to be the baseplate underneath, and the other baseplate to be the baseplate above, the baseplate of one side of the **pixel array** transparent substrate and the opposition transparent substrate of the right flank **LCD** panel to be the baseplate above, and the other baseplate to be the baseplate underneath, and adhesion with the baseplate of one side of the left side **LCD** panel and the other baseplate of the right flank **LCD** panel and the other baseplate of the left side **LCD** panel and the baseplate of one side of the right flank **LCD** panel In order adhesion, the dextral edge of the left side **LCD** panel designates that is adhesion in the left edge of the right flank **LCD** panel as feature.

L67 ANSWER 17 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:46372 HCAPLUS
DN 134:109103
TI Semiconductor devices for **liquid crystal display** and fabrication of same
IN Sasaki, Atsushi; Tsutsu, Hiroshi
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001015758	A2	20010119	JP 1999-183231	19990629
PRAI	JP 1999-183231		19990629		

AB The semiconductor devices comprise a substrate (e.g., **glass substrate**), a semiconductor layer formed on the substrate and having implanted impurities to form source and drain regions, a gate insulating layer at least covered on a part of the semiconductor layer including channel region, 1st gate electrode formed from a heat-resistant matter (e.g., metal) arranged opposite to the semiconductor layer via the gate insulating layer, and 2nd gate electrode formed from a metal, having elec. resistance and heat resistance lower than those of the heat-resistant matter, elec. contacted with the 1st gate electrode, resp. The semiconductor layer is a Si-based layer, e.g., Si, Si-**Ge**, Si-**Ge**-C, etc. The 1st gate electrode is formed from Ti. Zr, Hf, V, Nb, Ta, Cr, Mo, W, or their alloys. The 2nd electrode is formed from the following **Al**-based metals: **Al**, **Al**-Cu, **Al**-Cu-Si, **Al**-Zr, **Al**-Sc, **Al**-Sc-Cu, **Al**-Pd, **Al**-Si, **Al**-Fe, **Al**-Co, **Al**- Ni, **Al**-Ir, **Al**- Y, **Al**- Nd, **Al**-Gd, etc. The semiconductor devices can be TFTs for **liq . crystal display**.

L67 ANSWER 18 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:822801 HCAPLUS
DN 133:358246
TI High-speed TFT and method for its fabrication
IN Yamazaki, Shunpei; Arai, Yasuyuki
PA Semiconductor Energy Laboratory Co., Ltd., Japan
SO Eur. Pat. Appl., 49 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1054452	A2	20001122	EP 2000-110387	20000515
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6492659	B1	20021210	US 2000-570612	20000512
	JP 2001053285	A2	20010223	JP 2000-142027	20000515
PRAI	JP 1999-171485	A	19990515		
	JP 1999-152902	A	19990531		

AB To fabricate a cryst. semiconductor film with controlled locations and sizes of the crystal grains, and to use the cryst. semiconductor film in the channel-forming region of a TFT to realize a high-speed operable TFT. A translucent insulating thermal conductive layer 2 is provided in close contact with the main surface of a substrate 1, and an insular or striped

1st insulating layer 3 is formed in selected regions on the thermal conductive layer. A 2nd insulating layer 4 and semiconductor film 5 are laminated there over. The semiconductor film 5 is 1st formed with an amorphous semiconductor film, and then crystd. by laser annealing. The 1st insulating layer 3 has the function of controlling the rate of heat flow to the thermal conductive layer 2, and the temp. distribution difference on the substrate 1 was used to form a single-crystal semiconductor film on the 1st insulating layer 3.

L67 ANSWER 19 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:665893 HCAPLUS
DN 133:230131
TI Electroluminescent display devices
IN Segawa, Yasuo
PA Sanyo Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000260571	A2	20000922	JP 1999-65319	19990311
PRAI JP 1999-65319		19990311		

AB The devices comprise: (1) a glass substrate; (2) a transparent ITO anode array; (3) an electroluminescent **pixel array**; (4) a thin film transistor driver array; and (5) a non-transparent cathode array, where the light from (3) emits towards (2) and (1).

L67 ANSWER 20 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:623662 HCAPLUS
DN 133:186766
TI Fabrication of electromagnetic beam assisted deposition apparatus and method of making integrated thin film photovoltaic
IN Morgenthaler, Daniel R.
PA Lockheed Martin Corporation, USA
SO U.S., 13 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6113751	A	20000905	US 1998-130705	19980806
PRAI US 1998-130705		19980806		

AB A method and system for making monolithically integrated thin film photovoltaic is disclosed. In one embodiment of the system, a device for directing electromagnetic energy having a selected frequency is utilized to electronically excite a portion of a second medium on the surface of a substrate to facilitate reaction with an excitable deposition medium. The frequency may be selected such that the desired reaction between the excited second medium and deposition medium is facilitated and side reactions and incorporation of impurities into the thin film are minimized. Multiple layers may be formed by selecting addnl. frequencies, if necessary. The method of the present invention allows formation of monolithically integrated thin films without removing material from the substrate surface between deposition steps. In one embodiment, the method of the present invention includes the steps of providing a first excitable deposition medium, providing a substrate having a second medium positionable thereon, selecting a frequency of electromagnetic energy to excite the second medium, and directing electromagnetic energy having the

selected frequency on at least a portion of the second medium to excite the medium to an excited state to facilitate a reaction with the excitable deposition medium, the product of such reaction being a first thin film deposit on the substrate.
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 21 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:606923 HCAPLUS
DN 133:215529
TI Method of forming polycrystalline silicon TFTs with TiN/Cu/TiN interconnections for a **liquid crystal display pixel array**
IN He, Shusheng; Nguyen, Tue
PA Sharp Laboratories of America, Inc., USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6111619	A	20000829	US 1999-321525	19990527
JP 2000347221	A2	20001215	JP 2000-121367	20000421
PRAI US 1999-321525	A	19990527		

AB The invention provides a TFT **LCD** structure and method for using Cu conductors on polycryst. Si TFTs. A top gate TFT architecture is employed with the Cu sandwiched between layers of TiN. Conventional photolithog. and wet etch patterning is used for the Cu and TiN conductors. Cu metal gates and source/drain electrodes are provided, yielding TFTs of a quality comparable to TFTs employing **Al** electrodes and conductors. A method of fabrication is also disclosed.
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 22 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:511892 HCAPLUS
DN 133:127419
TI Organic EL devices, display and manufacture
IN Miyashita, Satoru; Shimoda, Tatsuya; Kiguchi, Hiroshi; Kobayashi, Hidekazu
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000208254	A2	20000728	JP 1999-4682	19990111
PRAI JP 1999-4682		19990111		

AB The manufg. process comprises the steps of: forming, on a **glass substrate**, an ITO 1st pixel electrode array (.dblvert. X); forming a hole injection and a hole transport layer by coating a polythiophen deriv. and a silane coupler and by curing them; irradiating a fluorocarbon (CF4) plasma thereon; forming a red, a green and a blue pixel matrix by ink jet injection of polyparaphenylene derivs.; forming a 2nd pixel electrode array (.dblvert. Y); and forming a TFT driver matrix.

L67 ANSWER 23 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:474524 HCAPLUS
DN 133:96549

TI Organic electroluminescent display devices and manufacture
IN Kodama, Mitsufumi
PA TDK Electronics Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000195677	A2	20000714	JP 1998-376788	19981225
	JP 3188678	B2	20010716		
PRAI	JP 1998-376788		19981225		

AB The devices comprise: a **glass substrate**; an ITO electrode stripe array (.dblvert. X); a patterned SiO2 layer; a TPD hole transport layer; a Alq3 phosphor layer; an AlLi electrode stripe array (.dblvert. Y); and a **Al**/TiN circuit layer.

L67 ANSWER 24 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:418167 HCAPLUS
DN 133:50956
TI Active type **EL display** panels
IN Yokoyama, Ryoichi
PA Sanyo Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000173779	A2	20000623	JP 1998-340501	19981130
	KR 2000035710	A	20000626	KR 1999-52875	19991126
PRAI	JP 1998-340501	A	19981130		

AB The panels comprise: a thin film transistor array; an electroluminescent **pixel array**; and a driver circuit employing the gate of the drain electrode material of the transistors.

L67 ANSWER 25 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:346319 HCAPLUS
DN 132:341699
TI Fabrication of a-Si:H TFTs at 120.degree.C on flexible **polyimide** substrates
AU Sazonov, Andrei; Nathan, Arokia; Murthy, R. V. R.; Chamberlain, S. G.
CS Electrical and Computer Engineering Department, University of Waterloo, Waterloo, ON, N2L 3G1, Can.
SO Materials Research Society Symposium Proceedings (2000), 558(Flat-Panel Displays and Sensors--Principles, Materials and Processes), 375-380
CODEN: MRSPDH; ISSN: 0272-9172
PB Materials Research Society
DT Journal
LA English
AB In this paper, we report a fabrication process of hydrogenated amorphous silicon (a-Si:H) thin film **transistors** (TFTs) at 120.degree. on flexible **polyimide** substrates for large-area imaging applications. Kapton HN (DuPont) films 50 and 125 .mu.m thick and 3 in. in diam., were used as substrates. Both sides of the **polyimide** substrate were first covered with 0.5 .mu.m thick a-SiNx. The TFT structure includes 120 nm thick room-temp. sputtered **Al** gate, 250 nm thick PECVD deposited a-SiNx for the gate dielec., 50 nm thick a-Si:H deposited by PECVD from silane-hydrogen gas mixt., 50 nm thick n+

a-Si:H source and drain contacts, and room-temp. sputtered **Al** top contact metalization. We used dry etching for all layers except for the gate and top metal, which were patterned using wet etchants. For purpose of TFT performance comparison, Corning 7059 **glass substrates** were used. The performance of the fabricated TFT and its improvement with use of optimized a-Si:H and a-SiNx quality will be presented along with a discussion of the intrinsic mech. stress in the thin-film layers.

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 26 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:656025 HCAPLUS
DN 131:265776
TI Semiconductor device comprising a polysilicon semiconductor layer
IN Ohtani, Hisashi; Miyanaga, Akiharu; Takemura, Yasuhiko
PA Semiconductor Energy Laboratory Co., Ltd., Japan
SO U.S., 13 pp., Cont. of U.S. Ser. No. 703,400, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5965904	A	19991012	US 1997-956769	19971022
	JP 07176745	A2	19950714	JP 1993-343951	19931217
PRAI	JP 1993-343951		19931217		
	US 1994-358019		19941216		
	US 1996-703400		19960826		

AB The principal portion of a semiconductor device, esp. an IGFET, is made from a polycryst. Si layer which yields an x-ray diffraction pattern or an electron beam pattern with the (311) diffraction peak intensity accounting for .gtoreq.15% of the total diffraction peak intensity. A semiconductor device with improved performance and reliability can be obtained by reducing the d. of states at the boundary between the polycryst. Si film and the gate insulating film.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 27 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:602575 HCAPLUS
DN 131:300113
TI A solid state NMR study of polycarbonate oligomer grafted onto the surface of amorphous silica
AU Xie, X.-Q.; Ranade, S. V.; DiBenedetto, A. T.
CS Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
SO Polymer (1999), 40(23), 6297-6306
CODEN: POLMAG; ISSN: 0032-3861
PB Elsevier Science Ltd.
DT Journal
LA English
AB High resoln. solid state 13C and 29Si CP/MAS NMR was used to investigate the grafting mechanism, morphol. and interfacial mobility of polycarbonate (PC) oligomer and bisphenol A grafted onto silica surfaces. It was previously shown that interface modification via grafting **led** to composites with increased hydrolytic stability and interfacial toughness. The NMR expts. were carried out to det. the nature of the bonding of the reactants to the **glass surface** and to characterize the relaxation properties of the reacted species. The NMR spectra demonstrate differences between the neat and grafted PC oligomer that suggest strong

bonding. A model compd., bisphenol A, was used to resolve signal overlaps caused by repeat units and to verify the formation of primary bonding at the silica surface by the existence of a downfield shift of the C4 resonance peak and other changes in the spectrum. Proton spin-lattice relaxation times in the rotating frame offer secondary evidence of the formation of **Si**-O-C bonds on the silica surface. The proton spin-lattice relaxation of the grafted mols. were characterized by a bimodal distribution of relaxation times, while unreacted mols. were represented by a single relaxation time. Temp. dependent studies show that the oligomer loses mobility as a result of grafting, and that the transition responses of the material are lost. The grafted material is visualized as a low d. monomol. **layer** of covalently **bonded** material.

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 28 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:559303 HCAPLUS
DN 131:315754
TI Micro-contact printing approaches to organic light-emitting diode pixels
AU Wang, Qingwu; Li, Weijin; Jabbour, Ghassan E.; Cui, Ji; Marks, Tobin J.; Kippelen, Bernard; Peyghambarian, Nasser
CS Department of Chemistry and the Materials Research Center, Northwestern University, Evanston, IL, 60208-3113, USA
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1999), 40(2), 1248-1249
CODEN: ACPPAY; ISSN: 0032-3934
PB American Chemical Society, Division of Polymer Chemistry
DT Journal
LA English
AB Org. light-emitting diodes (OLEDs) based on either polymers or small mols. are attracting attention for potential applications in flat panel displays (FPDs) due to their high luminescent efficiency, low driving voltage, large viewing angle, light wt., simple device fabrication, and potential low cost. Microcontact printing (gCP) is a widely used soft-lithog. technique to chem. pattern the surfaces of various substrates, on which submicron or even nm features have been achieved using selective phys. or chem. deposition techniques. A novel approach to OLED pixel fabrication using microcontact printing is reported. This procedure is essentially compatible with all of the methods to make OLEDs such as thermal evapn., spin coating, and self-assembly. Bright green **pixel arrays** have been fabricated using a simple soft- lithog. method of microcontact printing. The current-voltage and brightness-voltage for the octadecyltrichlorosilane patterned device clearly show the pixels and OTS covered areas turn on at -12 V and -16.75 V. resp. These pixels have an av. brightness, which is sufficient for display applications.

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 29 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:361939 HCAPLUS
DN 131:37559
TI Electroluminescent devices
IN Takenaka, Masaji; Suzuki, Noboru
PA Alps Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	JP 11154593	A2	19990608	JP 1997-321458	19971121
PRAI	JP 1997-321458		19971121		

AB The devices comprise: a transparent electrode; a phosphor layer coated with a **moisture-proof** coating; a dielec. layer; a back-surface electrode; and a thermoplastic **moisture proof** layer contg. a plastic sol.

L67 ANSWER 30 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:359810 HCAPLUS
DN 131:163864
TI Polycrystalline thin-film **transistors** on **plastic** substrates
AU Carey, Paul G.; Smith, Patrick M.; Theiss, Steven D.; Wickboldt, Paul; Sigmon, Thomas W.
CS Lawrence Livermore National Lab., Livermore, CA, USA
SO Proceedings of SPIE-The International Society for Optical Engineering (1999), 3636(Flat Panel Display Technology and Display Metrology), 4-10
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
AB Flat panel displays made on **plastic** substrates are envisioned for use in certain com. and military systems because they are more rugged and lightwt. than displays made on **glass substrates**. High information content can be attained for such displays using an active matrix array of thin film **transistors** (TFTs) for the pixels and high current TFTs for the drivers. The fabrication of high performance polysilicon TFTs on flexible **plastic** substrates is presented along with corresponding elec. characteristics. **Plastic** substrates pose severe temp. constraints on the fabrication process. To overcome elec. characteristics. **Plastic** substrates pose sever temp. constraints on the fabrication process. To overcome these constraints, the authors' group at LLNL used low temp. silicon, oxide, and **aluminum** thin film deposition steps and pulsed excimer laser processing to perform the TFT channel crystn. and the source/drain doping. Sheet resistance values <1k.OMEGA./DAL were obtained using the authors' laser doping technique for 900 .ANG. thick polysilicon films. The authors' n-channel polysilicon TFT elec. performance on **plastic** shows mobilities up to 50 cm2/V-sec and ON current to OFF current ratios of up to 1 X 106 for gate voltages from -1 to +35 V.
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 31 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:234088 HCAPLUS
DN 130:244562
TI Display pixels driven by **silicon** thin-film transistors and method of fabrication
IN Carey, Paul G.; Smith, Patrick M.
PA The Regents of the University of California, USA
SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917155	A1	19990408	WO 1998-US20690	19980928
	W: JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				

PT, SE
US 5994174 A 19991130 US 1997-940104 19970929
PRAI US 1997-940104 19970929
AB Display pixels driven by **silicon** thin-film transistors are fabricated on plastic substrates for use in active-matrix displays, such as flat panel displays. The process for forming the pixels involves a prior method for forming individual **silicon** thin-film transistors on low-temp. plastic substrates. Low-temp. substrates are generally considered as being incapable of withstanding sustained processing temps. greater than about 200.degree.. The pixel formation process results in a complete pixel and active matrix **pixel array**. A pixel (or picture element) in an active-matrix display consists of a **silicon** thin-film transistor (TFT) and a large electrode, which may control a liq. crystal light valve, an emissive material (such as a light-emitting diode or **LED**), or some other light-emitting or attenuating material. The pixels can be connected in arrays wherein rows of pixels contain common gate electrodes and columns of pixels contain common drain electrodes. The source electrode of each pixel TFT is connected to its pixel electrode and is elec. isolated from every other circuit element in the **pixel array**.
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L67 ANSWER 32 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1998:466062 HCAPLUS
DN 129:209256
TI Frame sequential miniature **silicon** display using mixed-mode twisted nematic liquid crystal
AU Huang, Ho-Chi; Cheng, Po-Wing; Kwok, Hoi-Sing
CS Centre for Display Research & Department of Electrical and Electronic Engineering, The Hong Kong University of Science and Technology, Hong Kong, Peop. Rep. China
SO Proceedings of SPIE-The International Society for Optical Engineering (1998), 3421(Display Technologies II), 53-61
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
AB We present a mixed-mode twisted nematic (MTN) **silicon** display integrated with 4-bit digital data drivers. With high bandwidth of the digital data driver, pixel access time of less than 10 ns was achieved. Digital gray-scale addressing technique, which utilizes multiple fields per frame, synchronous field voltages and weighted field time, was applied to increase gray scale from 4 to 8 bits. Chromatic characterization of the display using 3-color-in-1 **LED** as light source was performed. Contrast ratios on **pixel array** were 49, 32 and 21, resp., for red, green and blue colors at 3 V root-mean-squared voltage. It was obsd. that frame inversion gave rise to higher contrast ratio, while column inversion was less color dispersive. Using color sequential technique, we have demonstrated 4 bits per color for this highly integrated MTN display.

L67 ANSWER 33 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1998:190191 HCAPLUS
DN 128:251474
TI **Silicon**-glass bonded wafers
IN Young, William Ronald; Rivoli, Anthony L.
PA Harris Corp., USA
SO U.S., 15 pp.
CODEN: USXXAM
DT Patent

LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5729038	A	19980317	US 1995-573099	19951215
PRAI US 1995-573099		19951215		

AB Integrated circuits are described which comprise a **glass substrate**; a single crystal semiconductor **layer bonded** to the **glass substrate** by a transparent **bonding layer** which comprises a compd. of a first material different from the single crystal semiconductor layer and the **glass substrate**, and a second material of which each of the semiconductor layer and the **glass substrate** is comprised; and semiconductor devices formed in the single crystal semiconductor **layer** of the **bonded** wafer. The semiconductor-on-glass integrated circuits may include photodetectors which are stimulated by backside light passing through the **glass substrate**; this provides information reception by optical communication. Bipolar and field effect transistors may be shielded from the light by their buried layers. Further, **LEDs** integrated together with photodetectors permits all optical communication among **glass substrate** chips. Alternative uses of the **glass substrate** include thermal isolation for efficient thermally regulated integrated circuits.

L67 ANSWER 34 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1998:28931 HCAPLUS
DN 128:144226
TI Studies of the CVD of **silicon** nitride for the manufacture of composites
AU Puhl, A.; Emig, G.
CS Univ. Erlangen-Nuernberg, Erlangen, D-91058, Germany
SO Fortschrittsberichte der Deutschen Keramischen Gesellschaft (1997), 12(1, Aufbau und Hochtemperatureigenschaften von Si3N4-Werkstoffen), 25-36
CODEN: FDKGFF; ISSN: 0177-6983
PB Deutsche Keramische Gesellschaft
DT Journal
LA German
AB The variation of the process parameters (vol. flow, flow velocity, pressure, and furnace temp.) in the title manufg. process **led** to homogeneous surface **layers** with excellent **adhesion** properties on quartz, graphite, and Si3N4. The deposition rates were calcd. using a simple kinetic model. No infiltration into porous substrate materials was obsd., and the oxidn. resistance of the porous samples was improved by CVD coating. The O diffusion into nonporous Si3N4 was not reduced by Si3N4 coatings. Moreover, the effect of CVD on the chem. and mech. stability of C fibers (Sigrafil C40) was investigated. Tensile stress tests revealed a considerably lower tensile strength of coated C fibers in comparison to uncoated samples.

L67 ANSWER 35 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1997:794018 HCAPLUS
DN 128:108555
TI Color filters with high contrast, smooth surface, and high light-shielding properties and their manufacture
IN Omo, Yoshiaki; Hashimoto, Takao
PA Nissha Printing Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09318810	A2	19971212	JP 1996-159082	19960529
PRAI	JP 1996-159082		19960529		

AB The color filters for **liq. crystal display** panels, etc., comprise transparent substrates, transparent conductive films on the substrates, and black matrixes of black inorg. oxides and colored picture elements on the conductive films. The conductive films are obtained by printing and firing inks comprising N(OH)r(RCOCH2COR')s [N = In, Sn, Sb, B, P, **Al**, Bi, Si, Ti, Se, Te, Hf, Zn; R, R' = (substituted) allyl or alkyl; r, s .gtoreq.1; r + s = n], solvents, and additives. Preferably, the solvents are mixts. of 5-60% .gtoreq.1 org. solvents (b.p. 0-140.degree.) selected from alcs., ketones, esters, and ethers and 40-95% .gtoreq.1 org. solvents (b.p. 150-280.degree.) selected from carbitols, glycols, and cellosolves. Manuf. of the color filters consists of applying and firing M(OR1)l(OR2)mXpYq (M = Mg, Ca, Zr, Ti, Hf, **Ge**, I, In, **Al**, Ga, Sn, Si; R1, R2 = H, alkyl, acyl; X, Y = H, Cl, OH; l, m, p, q = 0-8) on transparent substrates having conductive films to form transparent active films, blackening the active films by redox reaction of metals, removing the blackened parts except for black matrixes, and forming colored picture elements on the exposed conductive films.

L67 ANSWER 36 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1997:488295 HCAPLUS
DN 127:183422
TI Liquid crystal and information transmission devices
IN Ishiwatari, Kazuya; Masaki, Yuichi; Suzuki, Masaaki; Yokoyama, Yuko
PA Canon K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09189902	A2	19970722	JP 1996-1748	19960109
PRAI	JP 1996-1748		19960109		

AB The devices comprises: a pair of **glass substrates**; a color filter contg. a red, a green, a blue pixel elements and a black matrix; a chiral smectic liq. crystal interposed between a 1st and a 2nd neighbor pair of aligning polymer layers and ITO electrode stripe arrays, resp., where the electrodes have zig zag profiles to fill the gaps in the projected pattern of the **pixel array**.

L67 ANSWER 37 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1997:250030 HCAPLUS
DN 126:318281
TI Microfabrication of an electroluminescent polymer light emitting diode **pixel array**
AU Faraggi, E. Z.; Davidov, D.; Cohen, G.; Noach, S.; Golosovsky, M.; Avny, Y.; Neumann, R.; Lewis, A.
CS Racah Institute of Physics, The Hebrew University of Jerusalem, Jerusalem, 91904, Israel
SO Synthetic Metals (1997), 85(1-3), 1187-1190
CODEN: SYMEDZ; ISSN: 0379-6779
PB Elsevier
DT Journal
LA English
AB A method was developed for micro-fabrication of a light emitting diode (

LED) **pixel array** of conjugated electroluminescent polymers sandwiched between ITO and **aluminum**. The method, based on direct photoablation using a 193 nm excimer laser, maintains intact the properties of the polymer, in this case, poly(1,4-phenylenevinylene-2,6-pyridylenevinylene). The technique was used to produce an array of 20 .mu.m .times. 20 .mu.m pixels with enhanced **electroluminescence** (EL) from pixels. The method can be extended to achieve nanometer size, using near-field nanolithog. The micro-fabrication of the **LED** array requires also the patterning of the ITO and the **aluminum** electrodes. For better performance of the device it is important to map the cond. of the patterned electrodes. For that purpose a novel mm-wave cond. microscope was used, which is capable to measure the local cond. of the patterned film with a spatial resoln. of .apprx.10-30.mu.m.

L67 ANSWER 38 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1997:132757 HCAPLUS
DN 126:164045
TI Surface-emitting **laser diodes**
IN Ochutsuto, Kumaaru Dotsuto; Suzuki, Akira
PA Nippon Electric Co, Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08340132	A2	19961224	JP 1996-89183	19960411
	US 5861636	A	19990119	US 1996-629470	19960411
PRAI	JP 1995-85128		19950411		

AB A visible **laser diode**, suitable for use in POF data-linkage **pixel array**, comprise: an n-GaAs substrate/buffer laminate; an n-AlAs/AlGaAs DBR multibilayer; an AlGaAsP DH laminate; a p+-GaAs cap layer; and .gtoreq.2 ring electrodes.

L67 ANSWER 39 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1997:72070 HCAPLUS
DN 126:96669
TI Micro relief element and preparation thereof
IN Summersgill, Philip; Harvey, Thomas Grierson; Ryan, Timothy George; Carter, Neil
PA Epigem Limited, UK; Summersgill, Philip; Harvey, Thomas Grierson; Ryan, Timothy George; Carter, Neil
SO PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9635971	A2	19961114	WO 1996-GB1096	19960508
	WO 9635971	A3	19961212		
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
	AU 9655104	A1	19961129	AU 1996-55104	19960508
	EP 824713	A2	19980225	EP 1996-912167	19960508

R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE, IE, FI
PRAI GB 1995-9487 19950510
WO 1996-GB1096 19960508
AB A microrelief element comprises of: (1) a substrate having a surface capable of retaining a relief forming polymer; (2) an overlay of a relief forming polymer over the substrate; (3) at least one relief feature formed from the relief forming polymer which protrudes above the overlay. Methods and app. for its prepn. are claimed, including the use of a flexible dispensing layer and UV photopolymn. A nickel master can be used to emboss a flexible polymer film, which can then be used to mold a resin layer on the substrate, which is then cured with UV. Possible support substrates include polymers (e.g. polyethylene terephthalate, Melinex, polycarbonate), glass, vitreous silica and other inorg. materials, wood pulp, card or paper. The molded overlay consists of e.g. UV-cured fluoroacrylate resins. Example applications of such a micro-relief element include computer generated holog. diffraction elements and microlens arrays. Other possible applications include liq. crystal alignment layers.

L67 ANSWER 40 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1997:26321 HCAPLUS
DN 126:52925
TI Light-shielding thin-film composition containing sol from alkoxy or acyloxy compounds of metals for display devices
IN Yoshikawa, Masao
PA Sharp Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 08254694	A2	19961001	JP 1995-59280	19950317
PRAI JP 1995-59280		19950317		

OS MARPAT 126:52925
AB The compn. contains (1) transparent liq. sol, obtained by hydrolysis of .gtoreq.1 metal compd. having alkoxy or acyloxy group, (2) a thermally color-changing compd., (3) a coloring agent, which provides complementary color so that black color is developed by a subtraction method when the thermally color-changing compd. changes its color, and (4) a photosensitive resin. The compn. is useful for fabrication of a light-shielding thin film for liq.-crystal and electroluminescent display devices. The metal compd. may be M(OR1)m(OR2)nXpYq (M = Mg, Ca, Ti, Hf, **Ge**, Zr, Y, **Al**, In, Ga, Sn, Si; R1-2 = H, alkyl, acyl; X, Y = H, Cl, OH; m, n, p, q = 0-8; m + n .gtoreq. 1; m + n + p + q = valency of M). For example, an ITO-coated **glass substrate** is coated with a compn. contg. Co-hexamethylenetetramine complex chloride decahydrate, Co-hexamethylenetetramine complex sulfate heptahydrate, Co3(PO4)2.8H2O, Hi Micron Red, and a photosensitive resin soln., and patternwise exposed to UV, followed by development and calcination at .gtoreq.160.degree. for 10 min (the film colored black) then at .gtoreq.200.degree. for .gtoreq.30 min to give a light-shielding inorg. porous film.

L67 ANSWER 41 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:529488 HCAPLUS
DN 125:182964
TI Transparent conductors comprising zinc indium oxide and devices containing them
IN Carter, Sue Anne; Cava, Robert Joseph; Kwo, Jueinai Raynien; Phillips,

Julia Mae; Thomas, Gordon Albert
PA A T and T Corp., USA
SO Can. Pat. Appl., 13 pp.
CODEN: CPXXEB
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CA 2158776	AA	19960414	CA 1995-2158776	19950921
CA 2156557	AA	19960414	CA 1995-2156557	19950821
PRAI US 1994-322902		19941013		
US 1994-336615		19941108		

AB Aliovalently doped Zn In oxide, where In is 40-75% of the metal elements, can achieve elec. cond. comparable to wide-band-gap semiconductors presently in use while exhibiting enhanced transparency in both the visible and IR ranges. The material can be doped to resistivity <1 m.OMEGA.-cm by small amts. of aliovalent dopants, such as tetravalent atoms. It can be deposited on **glass substrates** as amorphous and polycryst. films. The films can be used in devices, esp. liq.-crystal or flat-panel displays.

L67 ANSWER 42 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:326354 HCAPLUS
DN 124:356342
TI Transparent conductors comprising zinc-indium-oxide and methods for making films
IN Carter, Sue Anne; Cava, Robert Joseph; Kwo, Jueinai Raynien; Phillips, Julia Mae; Thomas, Gordon Albert
PA AT and T Corp., USA
SO Eur. Pat. Appl., 8 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 707320	A1	19960417	EP 1995-307028	19951003
R: DE, FR, GB, NL				
CA 2156557	AA	19960414	CA 1995-2156557	19950821
JP 08227614	A2	19960903	JP 1995-287751	19951107
US 5628933	A	19970513	US 1996-622324	19960326
PRAI US 1994-322902		19941013		
US 1994-335615		19941108		

AB Applicant has discovered that aliovalently doped zinc-indium-oxide where In is 40-75% of the metal elements can achieve elec. cond. comparable to wide band-gap semiconds. presently in use while exhibiting enhanced transparency in both the visible and IR. The material can be doped to resistivity of less than 1 m.omega.-cm by small quantities of aliovalent dopants, such as tetravalent atoms. It can be deposited on oxide **glass substrates** in metallic glasses and polycryst. films.

L67 ANSWER 43 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:321233 HCAPLUS
DN 125:23805
TI Thin-film transistor, its manufacture, and **liquid crystal display** device using it
IN Terada, Norihiro; Sano, Keiichi; Aya, Yoichiro
PA Sanyo Denki Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08051217	A2	19960220	JP 1995-93886	19950419
	JP 3322517	B2	20020909		
PRAI	JP 1994-118176	A	19940531		

AB In the transistor, comprising a channel (A) and a source/drain region (B) in a semiconductor film on a substrate and a gate electrode (C) formed on A over an insulating film, a character-controlling resistive layer is arranged between A and B. A and B may be polycryst. Si and the resistive layer may be amorphous Si. In the transistor, B is formed on a high-resistivity layer having a higher resistance than B, and a part between A and B is removed to allow elec. current to flow between the source and drain regions via the high-resistivity layer. The manuf. comprises these steps: forming the a-Si layer on the substrate, forming a concave surface at a part between the A-forming part (D) and the B-forming part (E), crystg. a-Si by irradiating with a high-energy beam, forming C over a gate-insulating film on D, and forming B by introducing dopants with the mask of C. The **liq.-crystal display** device comprises a driver part and an **pixel-array** part, both using the thin-film transistor having an active layer of polycryst. Si, and being arranged on a transparent insulating substrate. The transistor enables uniform control of transistor characteristics and lowers the leakage current.

L67 ANSWER 44 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1996:288849 HCAPLUS
DN 124:327868
TI Monolithically integrated optical differential amplifiers for applications in smart **pixel arrays**
AU Kehrli, U.; Leipold, D.; Thelen, K.; Epler, J. E.; Seitz, P.; Patterson, B. D.
CS Paul Sherrer Inst. Zurich, Zurich, CH-8048, Switz.
SO IEEE Journal of Quantum Electronics (1996), 32(5), 770-777
CODEN: IEJQA7; ISSN: 0018-9197
PB Institute of Electrical and Electronics Engineers
DT Journal
LA English
AB The design, fabrication, and characterization of monolithically integrated single- and dual-stage cascadable optical differential amplifiers (ODA's) are presented. The circuits are realized with photodiodes (PD's), metal-semiconductor field-effect transistors (MESFET's) and light-emitting diodes (**LED**'s) in the GaAs-AlGaAs system. They are fabricated with a process which uses trench technol. for the sepn. of the devices. The single-stage switching energy of 2.5 pJ is reduced to 0.4 pJ by the addn. of a 2nd stage, thereby increasing the bandwidth from 2 to 12 MHz. The output power is 30 .mu.W, and the measured contrast ratio is .apprx.1000. Switching is possible over an input power range of >5 decades, with a lower limit of 15 pW. The authors measure an optical open-loop gain of 2 .times. 106 and a power dissipation of 15-20 mW.

L67 ANSWER 45 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1995:806423 HCAPLUS
DN 123:215548
TI Semiconductor devices and manufacture thereof
IN Cho, Koju; Koyama, Jun; Teramoto, Satoshi
PA Handotai Energy Kenkyusho, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 07140485	A2	19950602	JP 1993-196845	19930714
JP 2789293	B2	19980820		
US 5686328	A	19971111	US 1994-272735	19940711
PRAI JP 1993-196845		19930714		

AB The devices, contg. an integrated TFT/capacitor element for use in active matrixes, comprise: a Si3N4-coated **glass substrate**; a gate electrode/circuit employing **Al** contg. Si, Ta, Ti, or Sc; a TiN/**Al** electrode for a gate circuit; a **polyimide** layer in capacitor; and an ITO pixel electrode.

L67 ANSWER 46 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1995:623376 HCAPLUS
DN 123:23902
TI Manufacture of matrix thin film **transistors** on active matrix substrates for **liquid crystal displays**
IN Tanaka, Takeshi; Kawachi, Genshiro; Ono, Kikuo; Ogawa, Kazuhiro; Shinagawa, Takaaki; Asuma, Hiroaki
PA Hitachi Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 06326314	A2	19941125	JP 1993-132338	19930512
PRAI JP 1993-132338		19930512		

AB To lower drain current resistance and increase on-current, the thin film **transistor** is manufd. by forming a gate electrode on a **glass substrate** and a gate insulating film and an amorphous Si film on top of the electrode, forming source/drain electrodes on the Si film with a protection film covering them all. On two sides of the amorphous Si film, a pair of n-doped regions (P doped) are formed, which are in ohmic contact with a channel reverse layer around the gate insulating film of the Si film and with the source/drain electrodes.

L67 ANSWER 47 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1995:417495 HCAPLUS
DN 122:278296
TI **Liquid crystal display** devices with light-shielding layer made of **polyimide** resin
IN Hado, Hitoshi; Yamamoto, Tomiaki; Okamoto, Masumi; Yamamoto, Takahiro
PA Tokyo Shibaura Electric Co, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 06324319	A2	19941125	JP 1993-112924	19930514
PRAI JP 1993-112924		19930514		

AB The title liq. crystal devices comprise a pair of substrates with an electrode and an orientation-controlling layer, .gtoreq.1 of which is transparent, a liq. crystal compn. between the substrates, and a

light-shielding layer made of **polyimide** resin and a light-shielding substance on .gtoreq.1 of the substrate. The devices provide high quality displays, and the light-shielding layer shows less light reflection. Thus, a **glass substrate** with an electrode was coated with a compn. contg. SE 7120 (polyamic acid **polyimide** precursor) and red, green, and blue pigments, coated with a resist, patternwise exposed, developed, heat-treated to form a patterned polyamide light-shielding layer.

L67 ANSWER 48 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1995:293826 HCAPLUS
DN 122:67948
TI **LED**
IN Tajiri, Atsushi; Yoshitoshi, Keiichi
PA Sanyo Electric Co, Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 06151953	A2	19940531	JP 1992-305301	19921116
PRAI JP 1992-305301		19921116		

AB The **LED** comprises n-AlxGa1-xAs and p-AlyGa1-yAs layers (0 .ltoreq. x .ltoreq. y < 1) with the carrier densities of (1-5) .times. 1017 and 1018-1019 cm-3, resp. The **LED** is suitable for monolithic high-intensity **pixel arrays**.

L67 ANSWER 49 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:685309 HCAPLUS
DN 121:285309
TI Indium-zinc oxide-based transparent electroconductive films, film-coated substrates and materials
IN Kaijou, Akira; Ohyama, Masashi; Shibata, Masatoshi; Shigematsu, Kazuyoshi
PA Idemitsu Kosan Co., Ltd., Japan
SO PCT Int. Appl., 113 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9413851	A1	19940623	WO 1993-JP1821	19931215
W: CA, KR, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 06234521	A2	19940823	JP 1993-190480	19930730
JP 06236710	A2	19940823	JP 1993-271368	19931029
CA 2150724	AA	19940623	CA 1993-2150724	19931215
JP 06236711	A2	19940823	JP 1993-315077	19931215
JP 06234565	A2	19940823	JP 1993-315084	19931215
JP 06318406	A2	19941115	JP 1993-315075	19931215
EP 677593	A1	19951018	EP 1994-903007	19931215
EP 677593	B1	20000322		
R: DE, FR, GB, IT				
US 5972527	A	19991026	US 1995-446584	19951106
PRAI JP 1992-334731		19921215		
JP 1992-334745		19921215		
JP 1992-336446		19921216		
JP 1992-336447		19921216		
WO 1993-JP1821		19931215		

AB The title films are substantially amorphous oxide films contg. In and Zn as main cationic elements, and have an at. ratio of In/(In + Zn) = 0.50 to 0.90. Optionally, .gtoreq.1 other cationic element(s) (OCE) having .gtoreq. 3+ valance is contained in the films, and the at. ratio of the cationic elements is OCE/(In+Zn+OCE) .ltoreq. 0.2. The OCE is Sn, **Al** Sb Ga and/or **Ge**. The films are formed by (1) coating and thermal decompn., or (2) sputtering. The films have good wet heat resistance (in comparison with In Sn oxide films), and can be used for office automation equipments. The transparent elec. conductive film coated transparent polymer and **glass substrates** are also claimed. Transparent elec. conductive materials (powders or sintered articles) of In- and Zn-contg. oxide having general formula $In_2O_3(ZnO)_m$ (m=2-20) and at. ratio In/(In+Zn) = 0.1-0.9 are also claimed. The films can be used as transparent electrodes for **liq. crystal display** devices.

L67 ANSWER 50 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:591549 HCAPLUS
DN 121:191549
TI conductive color filters and manufacture thereof
IN Uejima, Kunitaka
PA Fujitsu Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06059116	A2	19940304	JP 1992-209341	19920806
PRAI	JP 1992-209341		19920806		

AB The manufg. process comprises the steps of: forming a 1st **pixel array** on a **glass substrate** by a masked sputtering using a target comprising an ITO contg. a 1st inorg. pigment; and forming a 2nd and a 3rd **pixel array** analogously with an edge-overlapping between the neighboring pixel elements. The color filter, playing an addnl. role as a common electrode, is suited for use in the TFT-driven high-definition **liq.-crystal displays**.

L67 ANSWER 51 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:310962 HCAPLUS
DN 120:310962
TI Monolithic **LED pixel arrays** and manufacture thereof
IN Yoshimura, Masashi
PA Victor Company Of Japan, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05335620	A2	19931217	JP 1992-163773	19920529
PRAI	JP 1992-163773		19920529		

AB The array comprises: >2 inverted-rib pn-junction pixels formed in an n-epitaxial layer by ion-implantation; grooves for isolating the pixels; and protective layers for individual pixels and grooves; and the pixel electrodes which bury the contact holes of the protective layers. The pixel elements exhibit a uniform luminance in a high-definition display.

L67 ANSWER 52 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:310960 HCAPLUS
DN 120:310960
TI Multicolor **LED** arrays
IN Nagata, Hisao
PA Nippon Sheet Glass Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05335625	A2	19931217	JP 1992-136477	19920528
PRAI	JP 1992-136477		19920528		

AB A monolithic **LED pixel array** comprises: a k-th pixel comprising a 1st and a 2nd **LED** structure formed on a 1st and a 2nd surface of a k-th substrate domain; and means for driving the 1st or the 2nd **LED**, or both simultaneously, for the pixel emission of, (typically), red or green, or yellow light, resp. The array forms a tricolor pixel matrix display.

L67 ANSWER 53 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:310948 HCAPLUS
DN 120:310948
TI **LED** arrays and manufacture thereof
IN Oomura, Masaki; Suzuki, Takeshi; Umeno, Masayoshi
PA Nippon Kokan Kk, Japan; Nagoya Kogyo Daigakucho
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05315643	A2	19931126	JP 1992-115947	19920508
PRAI	JP 1992-115947		19920508		

AB A **LED** array comprises: a **Si** substrate; an insulator layer having a matrix array of pixel openings; and Group III-V **LED** formed in the openings, wherein the individual **LED** has the area < 400.mu.m2 and the width < 50.mu.m, so that the array appears as a single light source due to the divergent overlapping.

L67 ANSWER 54 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:284397 HCAPLUS
DN 120:284397
TI Manufacture of electrode circuits on monolithic **LED** arrays
IN Sawada, Juji
PA Sumitomo Metal Mining Co, Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05304316	A2	19931116	JP 1992-134414	19920428
PRAI	JP 1992-134414		19920428		

AB The manufg. process for forming an anodic circuit for a p-GaP pixel matrix comprises the steps of: forming a patterned Ti undercoat on a SiO2 layer;

and forming a Au layer on the Ti undercoat. The process is suited for forming a long-life high definition circuit.

L67 ANSWER 55 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:177819 HCAPLUS
DN 120:177819
TI **Liquid-crystal display** devices
IN Takegami, Hiroshi
PA Rohm Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 05188365	A2	19930730	JP 1992-2598	19920110
PRAI JP 1992-2598		19920110		

AB The device comprises a color filter which is manufd. by the steps of: forming a W film on a **glass substrate**; forming a patterned array of holes in the film using photolithog.; forming an overcoat contg. a colorant; forming a 1st-color **pixel array** by thermally diffusing a colorant into the substrate through the holes; and forming the color filter by repeating the process for the 2nd- and the 3rd-color **pixel array**. The color filter is heat- and UV-resistant and is suited for manufg. long-life display devices.

L67 ANSWER 56 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1994:141746 HCAPLUS
DN 120:141746
TI AlN-compatible thick film binder glasses and pastes
AU Harster, Timothy E.; Mattox, Douglas M.
CS Dep. Ceram. Eng., Univ. Missouri, Rolla, MO, 65401, USA
SO Proceedings of SPIE-The International Society for Optical Engineering (1993), 2105(1993 International Symposium on Microelectronics, 1993), 393-8
CODEN: PSISDG; ISSN: 0277-786X
DT Journal
LA English
AB The conventional thick-**film pastes** developed for Al2O3 substrates and packages are incompatible with AlN, most often showing poor adherence and blistering. The root problem is the chem. incompatibility of the major components of the thick-film binder glass. This incompatibility severely limits the compositional choices for such glasses, particularly with regard to chem. durability. A systematic study of the chem. durability of binder glasses formulated from the compatible candidates **led** to the development of stable **glasses based** on the RO-Al2O3-B2O3-SiO2 system, where R is an alk. earth. Choosing the best of these glasses, prototypical thick-**film** conductor **pastes** were prepd. and evaluated after firing on AlN. The stability of these glasses are discussed vis-a-vis the conventional glasses and the thick-**film paste** behavior described.

L67 ANSWER 57 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1990:554425 HCAPLUS
DN 113:154425
TI Electrically insulating siloxane coatings, liquid crystal substrates, their manufacture and their **liquid crystal display** elements
IN Uchimura, Shunichiro; Morishima, Hiroyuki

PA Hitachi Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 02105881	A2	19900418	JP 1988-257949	19881013
PRAI JP 1988-257949		19881013		

AB The title coating compns. contain hydroxylated polysiloxanes I (R1, R2 = H, hydrocarbyl; n > 0 integers), M(OR3)m (M = metal element; R3 = H, hydrocarbyl; m > 0 integers), and solvents. Thus, a 2000-.ANG. film prepd. from a compn. of (iso-PrO)4Ti, I (R1 = R2 = Ph, no.-av. mol. wt. 5 .times. 104; from PhSiCl3), ACNMe2, iso-PrOH, and hexylene glycol was deposited 2-mm on **Al** and showed breakdown voltage 100 V. Spreading the same compn. on a transparent electrode-patterned **glass substrate**, heating at 150-300.degree. for 2 h to form an elec. insulating film covering with LQ 1800 (**polyimide**), heating at 150-300.degree. for 2 h to form an oriented film, sealing ZLI 1132 with the composited substrates and an epoxy sealant gave a display cell showing good properties.

L67 ANSWER 58 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1986:596142 HCAPLUS
DN 105:196142
TI Formation of electrode
IN Aizawa, Koichi; Kondo, Yukihiro; Kakinote, Keiji
PA Matsushita Electric Works, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61146738	A2	19860704	JP 1984-265007	19841215
PRAI JP 1984-265007		19841215		

AB To form a thin-film electrode on a **glass substrate**, a layer of a material having good bonding ability to both glass and the electrode material is formed on the substrate by sputtering and the electrode is sputtered on this film. Thus, a **glass substrate** was rf-sputtered with a 3000-.ANG. layer of In2O3-10 mol% SnO2 at 400.degree. in Ar-0.5% O and a 5000-.ANG. layer of Ni on the oxide layer at 300.degree. in Ar. These electrodes are useful for liq. crystal or **EL display** devices.

L67 ANSWER 59 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1986:189715 HCAPLUS
DN 104:189715
TI Reflection spectra of solar concentrators with a **silicon** oxide(SiO) protected **aluminum** reflector on a **glass substrate**
AU Carbunescu, E.; Fara, V. L.; Esanu, N.
CS Inst. Politeh., Bucharest, Rom.
SO Studii si Cercetari de Fizica (1986), 38(2), 152-60
CODEN: SCEFAB; ISSN: 0039-3940
DT Journal
LA Romanian
AB A theor. anal. of some parameters essential to the study of the optical properties of the SiO protective layer of aluminized mirrors is presented:

the effects of the angle of incidence and of the thickness of the protective layers are discussed. A numerical integration method was used for a rapid processing of reflection spectra. The exptl. results obtained before and after climatic tests have **led** to the improvement of the **adherence** of **layers** deposited in industrial vacuum installations. The results can also be applied in the process of manufg. of high performance solar concentrators.

L67 ANSWER 60 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1986:134838 HCAPLUS
DN 104:134838
TI Organic coating on ceramic substrates
IN Yamada, Yorinobu; Hiraishi, Hisato
PA Citizen Watch Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 60221382	A2	19851106	JP 1984-79011	19840419
PRAI JP 1984-79011		19840419		

AB Inorg. substrates are coated with SiO2 contg. a metal oxide which has high polarity and with an org. film having high polarity. The inorg. substrates are preferably selected from **glass substrates** and semiconductor substrates, and the metal oxide is preferably selected from In2O3 and Al2O3. The org. film is preferably selected from **polyimide**, polyamide, poly(amide imide), poly(amide ester), poly(imide ester), and poly(amide acid). The org. film has improved bonding strength, and the inorg. substrates are useful as **glass substrates** for **liq. crystal display** devices and IC semiconductor substrates. Thus, Si(OMe)4 10 g was dissolved in MeOH 100 mL, and mixed with In(OMe)3 0.7 g to give a coating soln. A soda **glass substrate** was coated with the soln., and cured at 400.degree. to form a SiO2 film 2000 .ANG. thick contg. In2O3. The substrate was further coated with **polyimide** resin, and cured at 200.degree. to form a resin film 1000 .ANG. thick. The substrate showed no peeling of the resin film in a cross cut adhesion test (by JIS D0202) carried out at 65.degree. in an atm. with relative humidity 95% for a wk.

L67 ANSWER 61 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1984:130932 HCAPLUS
DN 100:130932
TI Moisture-resistant semiconductor devices
PA Sanyo Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 58178573	A2	19831019	JP 1982-61273	19820412
JP 03063228	B4	19910930		
PRAI JP 1982-61273		19820412		

AB **Moisture-proof** semiconductor devices such as **LEDs** are economically fabricated by coating an **Al**-Si-Cu alloy on the **Al** layer of an amorphous semiconductor. Thus, a transparent electrode was coated with p-i-n amorphous Si on glass with a

back contact of **Al** coated with **Al**-Si-Cu alloy to give an **LED**.

L67 ANSWER 62 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1981:489082 HCAPLUS
DN 95:89082
TI The effect of ion bombardment on stress and **adhesion** in thin **films** of silver and **aluminum**
AU Laugier, M.
CS Wimet Res. and Dev. Lab., Coventry, CV4 9AD, UK
SO Thin Solid Films (1981), 81(1), 61-9
CODEN: THSFAP; ISSN: 0040-6090
DT Journal
LA English
AB A simple ion gun is described and results are given for the effect of bombardment with (50-70)-keV Ar+ and O2+ ions on internal stress and **adhesion** of thin **films** of Ag and **Al** evapd. onto **glass substrates**. Ion bombardment **led** to large compressive bending forces and stresses significantly exceeding in magnitude the values of the intrinsic stress found in these materials and to adhesion increases as measured by the scratch test. Both **film** stress and **adhesion** increase linearly with ion dose up to 4 mC cm-2. Adhesive increases with time for **Al** films, but the increases became progressively smaller with increasing ion dose. No adhesive aging effects were obsd. for the Ag films.

L67 ANSWER 63 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1977:410225 HCAPLUS
DN 87:10225
TI Factors affecting thick **film adhesion**
AU Becher, P. F.; Murday, J. S.
CS Nav. Res. Lab., Washington, DC, USA
SO Proceedings of the International Microelectronics Symposium (1976) 235-8
CODEN: PIMSDY; ISSN: 0146-9525
DT Journal
LA English
AB The adhesive strength or fracture energy (.gamma.ic) to delaminate a thick metallization film from the substrate and the corresponding film microstructure were examd. for a glass frit bonded Pt/Au thick film metallization and various Al2O3 substrates. The best adherence was achieved under firing conditions which **led** to the formation of an interlocking glass/metal interface; the .gamma.icC was 3.7 J/m2 and corresponds to cohesive failure of the glass. Overfiring diminished the interlocking lesser fracture energy to <0.5 J/m2 and caused failure at the glass/metal interface. The substrate properties, in particular the surface crystallog. texture and the **surface glass** content, were related to adherence.

L67 ANSWER 64 OF 64 HCAPLUS COPYRIGHT 2003 ACS
AN 1968:109226 HCAPLUS
DN 68:109226
TI Integrated circuitry having discrete regions of semiconductor material isolated by an insulating material
IN Ramsey, Thomas H., Jr.
PA Texas Instruments Inc.
SO U.S., 6 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	US 3341743	19670912	US	19651021

AB An integrated circuit is manufd. by diffusion of **transistor**, emitter, and resistor regions in a wafer, etching openings in the protective coating of high elec. resistance, applying elec. leads and a **plastic** coating, and mounting it on a ceramic or **glass base**. After providing the opposite side with a protective coating, such as SiO, a channel is etched between the **transistors** and resistor regions down to the 1st protective coating. Then 2100-A.-thick glass film, such as borosilicate glaze, is applied to the wafer, and the channel is filled with a liq. mixt. of 25% Na2O.SiO2 and a 75% (3:1) mixt. of SiO2 and Al2O3 (the Al2O3 consists of (1:1) mixt. of large mesh (-100) and small mesh (-325). Upon hardening, substantial elec. insulation is provided and the individual parts are rigidly bonded into a single integral unit.